

**RD Sharma Solutions**

**Class 8 Maths**

**Chapter 23 Ex 23.2**

Q1. The marks obtained by 40 students of class VIII in an examination are given below:

16, 17, 18, 3, 7, 23, 18, 13, 10, 21, 7, 1, 13, 21, 13, 15, 19, 24, 16, 3, 23, 5, 12, 18, 8, 12, 6, 8, 16, 5, 3, 5, 0, 7, 9, 12, 20, 10, 2, 23.

Divide the data into five groups, namely 0-5, 5-10, 10-15, 15-20 and 20-25 and prepare a grouped frequency table.

Answer: The frequency table for the marks of 40 students of class VIII in an examination is given below:

Range of Marks	Tally Marks	Frequency
0-5	HHH IIII	9
5-10	HHH IIII	9
10-15	HHH II	7
15-20	HHH IIII	9
20-25	HHH I	6

Q2. The marks scored by 20 students in a test are given below:

54, 42, 68, 56, 62, 71, 78, 51, 72, 53, 44, 58, 47, 64, 41, 57, 89, 53, 84, 57.

Complete the following frequency table:

(Marks in class interval)	Tally marks	Frequency (No. of Children)
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		

What is the class interval in which the greatest frequency occurs?

Answer:

The frequency table can be completed as follows:

Marks	Tally Marks	Frequency
40-50	IIII	4

50-60	<del>III</del> III	8
60-70	III	3
70-80	III	3
80-90	II	2

The class interval with the greatest frequency (8) is 50-60.

**Q3. The following is the distribution of weights (in kg) of 52 persons:**

Weight in kg	Persons
30-40	10
40-50	15
50-60	17
60-70	6
70-80	4

(i) What is the lower limit of class 50-60?

(ii) Find the class marks of the classes 40-50, 50-60.

(iii) What is the class size?

**Answer:**

(i) The lower limit of the class 50-60 is 50.

(ii) Class mark for the class 40-50:

$$\frac{40+50}{2} = \frac{90}{2} = 45$$

Again, class mark for the class 50-60:

$$\frac{50+60}{2} = \frac{110}{2} = 55$$

(iii) Here the class size is 40-30, i.e. 10.

**Q4. Construct a frequency table for the following weights (in gm) of 35 mangoes using the equal class intervals, one of them is 40 – 45 (45 not included):**

30, 40, 45, 32, 43, 50, 55, 62, 70, 70, 61, 62, 53, 52, 50, 42, 35, 37, 53, 55, 65, 70, 73, 74, 45, 46, 58, 59, 60, 62, 74, 34, 35, 70, 68.

(i) What is the class mark of the class interval 40-45?

(ii) What is the range of the above weights?

(iii) How many classes are there?

**Answer:**

The frequency table for the given weights (in gm) of 35 mangoes is given below:

Weight	Tally Marks	Frequency
30-40	HHH I	6
40-50	HHH I	6
50-60	HHH IIII	9
60-70	HHH II	7
70-80	HHH II	7

(i) Class mark for the class interval 40 – 45:

$$\text{Class mark} = \frac{40+45}{2} = \frac{85}{2}$$

(ii) Range of the above weights:

Range = Highest value - Lowest value

$$= 74 - 30 = 44$$

(iii) There are 5 classes (30-40, 40-50, 50-60, 60-70, 70-80).

**Q5. Construct a frequency table with class-intervals 0-5 (5 not included) of the following marks obtained by a group of 30 students in an examination**

0, 5, 7, 10, 12, 15, 20, 22, 25, 27, 8, 11, 17, 3, 6, 9, 17, 19, 21, 29, 31, 35, 37, 40, 42, 45, 49, 4, 50, 16.

**Answer:**

The frequency table with class intervals 0 – 5, 5 – 10, 10 – 15, . . . , 50 – 55 is given below:

Marks	Tally Marks	Frequency
0-5	III	3
5-10	HHH	5
10-15	III	3
15-20	HHH	5
20-25	III	3
25-30	III	3
30-35	I	1
35-40	II	2
40-45	II	2
45-50	II	2
50-55	I	1

**Q6. The marks scored by 40 students of class VIII in mathematics are given below:**

81, 55, 68, 79, 85, 43, 29, 68, 54, 73, 47, 35, 72, 64, 95, 44, 50, 77, 64, 35, 79, 52, 45, 54, 70, 83, 62, 64, 72, 92, 84, 76, 63, 43, 54, 38, 73, 68, 52, 54.

Prepare a frequency distribution with the class size of 10 marks.

**Answer:** The frequency table of the marks scored by 40 students of class VIII in mathematics is given below:

Mark	Tally Marks	Frequency
20-30	I	1
30-40	III	3
40-50	HHH	5
50-60	HHH III	8
60-70	HHH III	8
70-80	III	9
80-90	IIII	4
90-100	II	2

**Q7.** The heights (in cm) of 30 students of class VIII are given below:

155, 158, 154, 158, 160, 148, 149, 150, 153, 159, 161, 148, 157, 153, 157, 162, 159, 151, 154, 156, 152, 156, 160, 152, 147, 155, 163, 155, 157, 153.

Prepare a frequency distribution table with 160 – 164 as one of the class intervals.

**Answer:**

The frequency table is given below:

Height	Tally Marks	Frequency
145-149	IIII	4
150-154	HHH IIII	9
155-159	HHH HHH II	12
160-164	HHH	5

**Q8.** The monthly wages of 30 workers in a factory are given below:

830, 835, 890, 810, 835, 836, 869, 845, 898, 890, 820, 860, 832, 833, 855, 845, 804, 808, 812, 840, 885, 835, 836, 878, 840, 868, 890, 806, 840, 890.

Represent the data in the form of a frequency distribution with class size 10.

**Answer:**

The frequency table of the monthly wages of 30 workers in a factory is given below:

Wage	Tally Marks	Frequency
800-810	III	3
810-820	II	2
820-830	I	1
830-840	HHH III	8
840-850	HHH	5
850-860	I	1
860-870	III	3
870-880	I	1
880-890	I	1
890-900	HHH	5

Q9. Construct a frequency table with equal class intervals from the following data on the monthly wages (in rupees) of 28 labourers working in a factory, taking one of the class intervals as 210-230 (230 not included):

220, 268, 258, 242, 210, 268, 272, 242, 311, 290, 300, 320, 319, 304, 302, 318, 306, 292, 254, 278, 210, 240, 280, 316, 306, 215, 256, 236.

Answer:

The frequency table of the monthly wages of 28 laborers working in a factory is given below:

Wage	Tally Marks	Frequency
210-230	IIII	4
230-250	IIII	4
250-270	HHH	5
270-290	III	3
290-310	HHH II	7
310-330	HHH	5

Q10. The daily minimum temperatures in degrees Celsius recorded in a certain Arctic region are as follows:

-12.5, -10.8, -18.6, -8.4, -10.8, -4.2, -4.8, -6.7, -13.2, -11.8, -2.3, 1.2, 2.6, 0, -2.4, 0, 3.2, 2.7, 3.4, 0, -2.4, -2.4, 0, 3.2, 2.7, 3.4, 0, -2.4, -5.8, -8.9, -14.6, -12.3, -11.5, -7.8, -2.9

Represent them as frequency distribution table taking -19.9 to -15 as the first class interval.

**Answer:**

The frequency table of the daily minimum temperatures is given below:

<b>Temperature</b>	<b>Tally Marks</b>	<b>Frequency</b>
-19.9 to -15	I	1
-14.9 to -10	HHH IIII	8
-9.9 to -5	HHH	5
-4.9 to 0	HHH HHH III	13
0.1 to 5	HHH III	8